

ABSTRACT:

The invention relates to a method of manufacturing a packaged semiconductor device comprising subjecting a metal carrier provided with at least one semiconductor crystal, the semiconductor crystal being provided with an encapsulation, to a singulation step in a dicing apparatus that is provided with a dicing blade comprising diamond grains, in which singulation step the dicing blade cuts, while being cooled with a cooling fluid, through the encapsulation and the metal carrier so as to singulate the at least one semiconductor device, characterized by applying a friction force reducing cooling fluid during the singulation step. Preferably a dicing blade of sintered metal with sharp cleaving diamond grains is used, the sharp cleaving diamond grains being applied in the dicing blade in a concentration smaller than or equal to a maximum concentration, which maximum concentration is defined by the concentration at which the mutual distance between the diamond grains that contribute to the cutting is just large enough to allow removal of substantially all sawing debris. The metal carrier is preferably provided with various features to reduce the amount of metal to be cutted and to prevent vibrations of the metal during the cutting.

Fig. 1